

From wang!elf.wang.com!ucsd.edu!info-hams-relay Sat Mar 23 04:21:10 1991 remote
from tosspot
Received: by tosspot (1.63/waf)
via UUCP; Sat, 23 Mar 91 09:47:34 EST
for lee
Received: from somewhere by elf.wang.com id aa07076; Sat, 23 Mar 91 4:21:09 GMT
Received: from ucsd.edu by relay1.UU.NET with SMTP
(5.61/UUNET-shadow-mx) id AA07047; Fri, 22 Mar 91 22:45:40 -0500
Received: by ucsd.edu; id AA06286
sendmail 5.64/UCSD-2.1-sun
Fri, 22 Mar 91 13:17:39 -0800 for brian
Received: by ucsd.edu; id AA06233
sendmail 5.64/UCSD-2.1-sun
Fri, 22 Mar 91 13:17:18 -0800 for /usr/lib/sendmail -oc -odb -oQ/var/spool/
lqueue -oi -finfo-hams-relay info-hams-list
Message-Id: <9103222117.AA06233@ucsd.edu>
Date: Fri, 22 Mar 91 13:17:17 PST
From: Info-Hams Mailing List and Newsgroup <info-hams-relay@ucsd.edu>
Reply-To: Info-Hams@ucsd.edu
Subject: Info-Hams Digest V91 #230
To: Info-Hams@ucsd.edu

Info-Hams Digest Fri, 22 Mar 91 Volume 91 : Issue 230

Today's Topics:

AMSAT NEWS SERVICE BULLETIN 075.01
Has anybody out there ever fixed a microwave?
Updated FAQs : Part I
Updated FAQs : Part II

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 18 Mar 91 01:48:33 GMT
From: sdd.hp.com!zaphod.mps.ohio-state.edu!magnus.acs.ohio-state.edu!tut.cis.ohio-
state.edu!n8emr!gws@ucsd.edu
Subject: AMSAT NEWS SERVICE BULLETIN 075.01
To: info-hams@ucsd.edu

=====
| Relayed from AMSAT BBS NETWORK |
| N8EMR's Ham BBS, 614-895-2553 1200/2400/9600/V.32/PEP/MNP5 |
=====

HR AMSAT NEWS SERVICE BULLETIN 075.01 FROM AMSAT HQ
SILVER SPRING, MD MARCH 16, 1991
TO ALL RADIO AMATEURS BT

AMSAT Ground Command Team Brings AO-16 And LO-19 BBS Back On-Line

After spending two weeks studying memory dumps, NK6K and G0/K8KA have determined the cause of the on-board computer crash which occurred on AO-16 March 2. NK6K traced the crash back to an inefficient way in which a "homebrew" PACSAT user program requested information about new files stored on the BBS. Because of the slow way the search for new files was being performed and the fact that at the time crash there were over 560 files stored, the file server took a lot longer to search than normal. After sixty seconds, a critical software timer timed out, and as NK6K puts it, "the dominoes started falling."

Now that this problem has been identified, G0/K8KA has made a change in the PACSAT file server software so that this problem won't re-occur. Also, new implementation notes will be published so that all writers of PACSAT ground station user software will be aware of the change in the PACSAT Protocol.

As of 03:00 on March 15, 1991, the BBS on AO-16 is back in operation. Likewise, the BBS on LUSAT-OSCAR-19 (LO-19) is on-line, according to LU7XAC. It is believed that the LO-19 on-board computer crash was due to the same problem, manifest in a slightly different way. NK6K points out that PACSAT BBS software is much more robust with each new version, and the time between crashes is longer.

/EX
SB ALL @ AMSAT \$ANS-075.02
EXPERIMENTERS DAY SCHEDULE

HR AMSAT NEWS SERVICE BULLETIN 075.02 FROM AMSAT HQ
SILVER SPRING, MD MARCH 16, 1991
TO ALL RADIO AMATEURS BT

PACSAT Experimenter's Day Operations Schedule Set

The schedule for future PACSAT Experimenter's Day operations is:

DATE	START TIME	END TIME
20 March	0500 UTC - 20 March	0430 UTC - 21 March
27 March	0320 UTC - 27 March	0255 UTC - 28 March
03 April	0505 UTC - 03 April	0615 UTC - 04 April

While operation of the S-Band and raised cosine PSK transmitters is scheduled to be conducted weekly, users are cautioned that these operations may be shortened or canceled to allow uploading of improved spacecraft software. Watch for bulletins in the BBS and the telemetry text frame of AO-16 for changes to the schedule.

Starting with the 20 March 91 session, all AO-16 bulletin transmissions will be stopped and the telemetry rate set to 20 seconds or faster so that higher than normal rate data may be taken. The file server will remain open.

[ANS thanks Bruce Rahn, WB9ANQ for the information for this bulletin]

/EX

SB ALL @ AMSAT \$ANS-075.03

OPERATIONS NET SCHEDULE

HR AMSAT NEWS SERVICE BULLETIN 075.03 FROM AMSAT HQ
SILVER SPRING, MD MARCH 16, 1991
TO ALL RADIO AMATEURS BT

AMSAT-NA Operations Net Schedule

AMSAT Operations Nets are planned for the following times. Mode B nets are conducted on an AO-13 downlink frequency of 145.950. Mode J/L nets are conducted on an AO-13 downlink frequency of 435.970.

Date	UTC	Mode	Phs	NCS	Alternates	U.S. day
23 Mar 91	1400	B	216	KA5SMA	WB9ANQ	Saturday

- reorientation to 180/0 and mode schedule change 27 March 91 -

30 Mar 91	2345	J/L	103	WJ9F	WB9ANQ	KA5SMA	Saturday
07 Apr 91	0315	J/L	99	WD0E	WA5ZIB	KA5SMA	Saturday
17 Apr 91	0330	J/L	97	WB6LLO	N5BF	WJ9F	Tuesday

The Operations Net features guest speakers approximately every other week to provide up-to-the-minute information on topics of interest to various sorts of satellite users. Watch ANS for information on guest speakers and topics.

/EX

SB ALL @ AMSAT \$ANS-075.04
A0-13 TRANSPONDER SCHEDULE

HR AMSAT NEWS SERVICE BULLETIN 075.04 FROM AMSAT HQ
SILVER SPRING, MD MARCH 16, 1991
TO ALL RADIO AMATEURS BT

A0-13 Winter Schedule, A0-10 No Longer Available

A0-13 TRANSPONDER SCHEDULE

Mode-B : MA 000 to MA 165 |
Mode-JL: MA 165 to MA 190 |
Mode-LS: MA 190 to MA 195 |
Mode-S : MA 195 to MA 200 | <= Mode B is Off - no swishing!
Mode-BS: MA 200 to MA 205 | <= QRP on BS please.
Mode-B : MA 205 to MA 256 |
Omnis : MA 240 to MA 060 |

This schedule is expected to continue through 27 March 91

The command team requests that you make a specific effort to use QRP on Mode B between MA 200 to 205. This is specifically to help those people who are experimenting with Mode S.

SPACECRAFT ATTITUDE PREDICTIONS FOR A0-13:

DATE	BLON	BLAT	
1991 Mar 17	209.0	-1.2	
1991 Mar 24	209.1	-1.1	Move towards 180/0 begins March 25.

Around 27 March 91, A0-13 is scheduled for a reorientation to target BLON = 180 and BLAT = 0. The transponder schedule for 27 March 91 through 19 June 91 is expected to be:

Mode-B : MA 000 to MA 095 |
Mode-JL: MA 095 to MA 125 |
Mode-LS: MA 125 to MA 130 |
Mode-S : MA 130 to MA 140 |
Mode-BS: < discontinued > | <-- Note 1
Mode-B : MA 140 to MA 256 | <-- Note 2
Omnis : MA 240 to MA 030 |

Note 1 - The transponder schedule for 27 March 91 to 19 June 91 will see the end of Mode-BS because Mode-S operation while the Mode-B transponder

was active was impractical due to interference from Mode-B users.

Note 2 - Originally the attitude change back to 210/0 was planned for early May because solar eclipses affecting AO-13 begin on 22 May 91 and in the past it has been the AO-13 command team policy NOT to magnetorquer during eclipses. However, in August this year we have NO choice but to magnetorquer during the eclipses so it was thought that we could gain some experience in magnetorquing during eclipses in June with a bonus of an extra month of operation with the more favourable attitude of 180/0 in the process.

The downside of this proposal is that ALL transponders will have to be switched OFF from MA 200 through perigee to MA 035 from 22 May 91 to 24 Jun 91 even though magnetorquing will not start until 17 Jun 91. Having the transponders OFF from MA 200 to MA 035 from 22 May 91 until 17 Jun 91 will give us an opportunity to gauge the state of the battery prior to the start of the eclipse.

Currently, OSCAR-10 is obviously not receiving sufficient solar panel illumination to support even the beacon much less the transponder. PLEASE DO NOT attempt to use OSCAR-10 until further notice. This period of dormancy is expected to last for several months. As soon as OSCAR-10 can support Mode-B transponder operations it will once again be released for general use. Early reports of OSCAR-10's beacon returning to full strength can be sent to VK5AGR @ PACSAT-1, @ UOSAT-3, @ 8J1JBS, or @ VK5WI. 73, Graham VK5AGR

/EX

--

Gary W. Sanders (gws@n8emr or ...!osu-cis!n8emr!gws), 72277,1325
N8EMR @ W8CQK (ip addr) 44.70.0.1 [Ohio AMPR address coordinator]
HAM BBS (1200/2400/9600/V.32/PEP/MNP=L5) 614-895-2553
Voice: 614-895-2552 (eves/weekends)

Date: 19 Mar 91 17:04:13 GMT

From: tut.cis.ohio-state.edu!pacific.mps.ohio-state.edu!zaphod.mps.ohio-state.edu!
swrinde!elroy.jpl.nasa.gov!ncar!csn!chuck@ucbvax.berkeley.edu
Subject: Has anybody out there ever fixed a microwave?
To: info-hams@ucsd.edu

I am posting this because other people who like myself have had experience troubleshooting electronic equipment and are competent to use this information wisely. However I in no way encourage anybody to actually try anything I am suggesting here and in fact I STRONGLY RECOMMEND you take your microwave to somebody who gets paid to take the risks involved in servicing such a piece of equipment.

This is not a 9 volt transistor radio, there are DEADLY voltages, and REAL RISKS of exposure to HARMFUL RADIATION involved in working on one of these beasts. You could think everything went fine and a year from now wonder why you have cancer. There is a capacitor in the microwave that stores enough energy to KILL YOU even if the unit is UNPLUGGED.

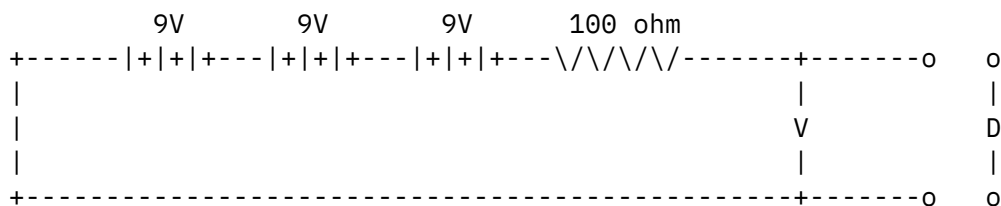
THIS IS NO JOKE. DON'T DO IT. YOU ARE ON YOUR OWN IF YOU TRY. I'M NOT KIDDING. IF YOU CAN'T TAKE THIS SERIOUSLY STOP READING NOW.

Thanks to everybody who replied and provided valuable insight. Also netnews has frequently proven an amazing source of information so thanks for the bandwidth.

I managed to find one microwave service guy who (I believe) gave the straight stuff on troubleshooting the microwave.

All of these tests are done with the unit unplugged, and the powersupply capacitor discharged, except the voltage measurement test. Beware of capacitors, they have "memory", you can discharge them and over time they can build up a charge just because of the forces involved in the way they store energy. I don't claim to understand it, just to have been zapped by it.

There is a power transformer, capacitor, diode, and magnetron in the cooking circuit. The transformer almost never fails (mine seems fine). The diode is a many (~12) junction diode, so a regular diode checker will probably not give you any indication. I built a diode checker using 3 9Volt batteries, resistor, and voltmeter (V) :



I used the voltmeter to measure the voltage drop across Diode in the reversed biased direction and measured no drop in voltage, in the forward biased direction I measured a drop across the diode of 9 Volts implying 9/.7 junctions operating properly.

I used an ohm meter to test the cap. Set ohm meter to 10 kohm scale. Short the capacitor to bring voltage to zero. Connect ohm meter to cap and you'll see a resistance which will start low on the scale and will over several seconds will go to infinity, reverse the leads and the same indication (low going to high) will repeat itself.

My cap tested fine.

The last test :

ON HIGH VOLTAGE PROBES : These DO NOT come with meters, so don't think that the probes you got with your meter qualify. Your meter and possibly your life depend on some judgement being used here. A High Voltage Probe is about a 15 inches long and have some serious insulation properties, and cost about 40 bucks. Mine has in it a 1 billion (1000 Meg) resistor that is about a foot long that used with a 10 meg impedance meter will produce a 100:1 voltage divider. So all measurements at the meter must be multiplied by 100 to get the actual voltage.

The next test is done with the unit plugged in, and a cup of water inside to act as a load. (In my ovens present condition, I could have used a cat :-)
To make the measurements I connected the probe leads to the terminals and then pressed start let it run a few seconds, and then stopped it.

Using a HIGH VOLTAGE PROBE I measured the AC voltage, and the DC voltage at the Magnetron while the unit thought it was cooking. I measured a few hundred volts DC, and a few thousand volts A.C. I suspect this is okay. I am going to replace the magnetron.

The service guy I spoke with said he could replace it with a new magnetron for \$80-90, or he might have a used one for about half that.

I hope to be nuking by the weekend.

Here is a summary of the original posting and the replys.

I (chuck@csn.org) posted the following article (Some stuff deleted)

```
> From chuck Mon Mar 18 13:52:40 MST 1991
> Newsgroups: misc.misc,sci.electronics,rec.ham-radio
> Subject: Anybody out there ever fixed a microwave oven
>
>
> Through pilot error I managed to run a microwave oven at full power for
> 70 minutes with nothing in it. It having nothing else to cook, cooked
> itself.
>
> There is apparently a magnetron and a power supply, the magnetron has two
> wires attached to it, it is a sealed unit. I have to assume that the
> oscillator is inside the sealed unit.
>
> Does anybody know if the magnetron is the most likely point of failure,
> or is the supply? Can I use a volt meter to measure the voltage from the
> power supply? Should I disconnect the supply from the magnetron before
> measuring the supply? If I disconnect the supply, should I provide a dummy
```

> load? Any other suggestions?
>
> Does sams provide photofact folders on microwaves? Does the manufacturer
> put service manuals in the hands of mere mortals.
>
> I have a hard time believing that some sensible precautions, wouldn't
> reduce this to a fairly safe activity, but maybe you know otherwise.
>
> Chuck Luciano
> 303-421-9113
> chuck@csn.org
>

I recieved the following (edited) replys which were very helpful :

>
> From brian@UCSD.EDU Mon Mar 18 10:02:56 1991
>
> 1. A magnetron IS an oscillator - a very high power one. It works by
> circulating electrons in a magnetic field.
>
> 2. It may have arced and fried, but it could also have fried the power
> supply rectifier.
>
> 3. To test the power supply, you need a very high voltage probe for your
> meter - magnetrons commonly run with anode voltages in the 12 to 16
> KILOVOLT range.
>
> 4. Magnetrons aren't cheap.
>
> Good luck!
> - Brian
>

These folks provided insight in several areas :

> From: jpd@pc.usl.edu (Dugal James P.)
> From: Maralee Morado <morado@milton.u.washington.edu>
> From: lpdjb@brahms.amd.com (Jerry Bemis)
> From: Stephen Jacobs <saj@chinet.chi.il.us>
>

- 1) Any testing should be done with a cup of water in the oven as a load.
- 2) That there is a fuse that could have blown (It didn't in my case).
- 3) That repair shops love to charge a fortune to replace a \$.30 fuse.
- 4) That running without a load probably fried the magnetron.

5) That a new magnetron would cost almost as much as the oven. (In my case the oven is a Sharp convection/microwave with turntable. This oven cost \$325, which is considerably more than a magnetron. However if you fry a \$110 dollar microwave it would seem a good move to buy a new one)

Included here are several messages that proved interesting and are included in their entirety.

```
> From: bob@cobalt.cco.caltech.edu (Robert S. Logan)
>
> There should be a schematic inside the oven someplace. They are really
> pretty simple minded: a bunch of interlock switches, the computer and
> keyboard that do the work, some relays, a HV supply, and the magnetron.
> If the computer still works & all the fuses and switches work, I would
> suspect the magnetron. You should be able to disconnect some wires
> and be able to check the transformer and HV cap with an meter. GROUND
> everything first (is case the bleeder is bad). You should be able to
> buy a magnetron, but I have no idea about prices.
>
> I have a Toshiba that stops working every once in a while. I take it
> apart, check the interlocks which are ok, put it back together & it
> works fine.
>
>
> --
> Robert S. Logan
> Campus Computing Organization, 158-79 Caltech, Pasadena, CA, 91125
> 818-356-4631
> rslogan@caltech.bitnet
> bob@iago.caltech.edu
> bob@tybalt.caltech.edu
>
>
> From: lpdjb@brahms.amd.com (Jerry Bemis)
>
> It has never been a good idea to run a microwave empty. In the last 15 years
> the microwaves haven't come with a notice to let you know this.
> Running the microwave empty allows the rf to bounce back into the magnitron
> and kill it. 'Bev Compfer' inventer of the magnetron
>
> After 70 minutes the power supply might have burnt up.
>
> I haven't seen a magnitron that can run with less then 1200 volts.
```

>
>

I also managed to contact a microwave service

--

Wow a .sig, I never had a .sig before.

Date: 14 Mar 91 18:44:57 GMT
From: genrad!dls@husc6.harvard.edu
Subject: Updated FAQs : Part I
To: info-hams@ucsd.edu

Since there have been numerous changes, I've decided to post these again, instead of waiting a whole month. Please send me any changes for this FAQ list.

Diana

12-Mar-91 15:27 dls update, see changebars (|)

I've been asked to create a "Frequently Asked Questions" posting for posting on rec.radio.amateur.misc, so here is Part I:

The following is a monthly posting of frequently asked questions for Non-amateurs or beginning hams. There is another posting for more advanced questions. If you have any questions you think should be added, please email to me at dls@genrad.com.

FREQUENTLY ASKED QUESTIONS For Amateur Radio (Beginner's Questions)

1. What is Amateur Radio?

Amateur Radio is a non-commercial radio communication service whose primary aim is public service and communication between private persons. Amateur Radio operators are commonly called hams. It's great fun to talk to someone in Japan on the radio!

2. Who can become a ham in the United States?

Anyone who is not a representative of a foreign government can be an Amateur Radio operator in the USA. There are tests that you must pass to get a license, however the tests are not insurmountable. There are 7-year-old hams and 80-year-old hams. There are many handicapped hams who get great enjoyment out of Amateur Radio.

3. OK, so how do I become a ham in the United States?

There are now two entry-level class licenses in Amateur Radio. A Novice license requires passing a 30-question written test and a Morse code test given at 5 words per minute. A Technician

license requires passing the 30-question written Novice test and a 25-question written Technician test, but no Morse code test. See local radio clubs or radio stores in your area for more information.

4. Where can I locate information and books on Amateur Radio?
Your local Radio Shack sells some ham radios and Amateur Radio license books. Books can also be obtained through the mail from ham radio organizations, such as ARRL in Newington, CT (203-666-1541) and W5YI in Dallas, TX (1-800-669-9594). There may be one or two ham radio stores in the local area (ie, within 50 miles). Try looking in the Yellow Pages under Radio Communications. Be assured that once you get a callsign, the mail order ham radio companies will find you :-).
For the Novice license, get a Novice License manual, plus 5-word-per-minute Morse code tapes, costing around \$25. For the Technician license, get a Novice License manual, a Technician License manual, and an FCC Rules manual, costing around \$32.
5. How much does it cost?
To take the Novice tests, it's free. To take the Technician or higher class tests, there is a small charge (around \$5 currently) to cover copying costs and running the testing sessions. The cost of a radio is really dependent on what you want to do. You can make your own radio and antenna for under \$150. You can buy a used single-band radio for \$150-\$300. Or you can buy a new multi-band multi-mode radio with all the doodads for \$300-\$3000. I'd suggest you learn more about ham radio, talk to local hams, find out what you want to do with ham radio first.
6. Where can I take the tests?
The Novice tests can be given by any two qualified hams of General class license or above. The Technician tests and all higher class license tests are given by three qualified Volunteer Examiners (VEs) who volunteer their time. To find out where and when local VE sessions are being held, contact your local radio club representatives, failing that contact ARRL or W5YI (at phone numbers shown above).
7. What can I do with a ham radio license?
There are so many things, it's a difficult question to answer, but here's some ideas:
 - * Talk to people in foreign countries.
 - * Talk to people (both local and far away) on your drive to work.
 - * Help in emergencies by providing communications.
 - * Provide communications in parades or walkathons.
 - * Help other people become hams.
 - * Hook your computer to your radio and communicate by computers.
 - * Collect QSL cards (cards from other hams) from all over the

United States and foreign countries and receive awards.

- | * Participate in contests or Field Day events.
- | * Provide radio services to your local Civil Defense organization
| thru ARES (Amateur Radio Emergency Service) or RACES (Radio Amateur
| Civil Emergency Service).
- | * Have someone to talk to on those sleepless nights at home.
- | * Receive weather pictures via satellites.
- | * Build radios, antennas, learn some electronics and radio theory.
- | * Talk to astronauts in space, or use the moon to bounce signals
| back to people on the Earth.
- | * Experiment with Amateur TV (SSTV) or send still-frame pictures
| by facsimile.
- | * Experiment with amateur satellite communications.

8. What can't I do with an Amateur Radio license?

The most important thing you can't do is transact business of any kind over ham radio. Interference to other hams or services, as well as obscene, profane or indecent language is not tolerated and is illegal. Music and broadcasting is not allowed on ham radio.

9. I'm interested, who will help me?

There are hams who are willing to become "Elmers" (mentors, helpers) in your local area. Look around and ask local hams. Search out local radio clubs. As well, some people have volunteered to be an Elmer over the Usenet. Paul has volunteered to maintain that list. If anyone wants to be an Elmer, or needs an Elmer, email him:
Paul W. Schleck, KD3FU, acmnews@zeus.unomaho.edu

10. I don't have a news server at my site, how can I subscribe to the rec.radio.amateur groups?

Both rec.radio.amateur.misc and rec.radio.amateur.packet are available via mailing list as Info-Hams Digest and Packet-Radio Digest. To subscribe, send email to:
Info-Hams-Request@ucsd.edu or Packet-Radio-Request@ucsd.edu
In the body of the message, write:
subscribe Info-Hams or subscribe Packet-Radio

11. I can read news at my site, but I don't have posting privileges. How can I post?

You can post to rec.radio.amateur.misc and rec.radio.amateur.packet by sending your posting email to Info-Hams@ucsd.edu or Packet-Radio@ucsd.edu. To post to other newsgroups, send the posting email to (groupname)@ucbvax.berkeley.edu and for the groupname, replace periods with dashes. For example, to post to rec.radio.amateur.policy you would send your posting to rec-radio-amateur-policy@ucbvax.berkeley.edu.

|12. I don't have FTP capability at my site. Can I get files via email?

| Here is one FTP sites that allows this. Others may be available.

| For access to the FTP files on lcs.mit.edu, send email to
| bitftp@pucc.princeton.edu or bitftp@pucc.bitnet (for Bitnet users).
| Subject doesn't matter. The text of the email is the FTP commands
| one after another. For example:

| FTP lcs.mit.edu
| USER anonymous
| PASS yourname@yoursite
| ASCII
| CD telecom-archives
| GET filenames
| BYE

| A help file is available giving detailed instructions by putting
| the single word HELP into the text of the email.

|13. What are the different US amateur classes and what can each of them do?

| Novice - has CW (Morse code) privileges on 4 HF bands (80, 40, 15,
| and 10 meter), Voice priveleges on 10 meters, and full priveleges
| on 2 VHF/UHF bands (220 MHz and 1290 MHz).

| Required are 5 wpm Morse code test and 30-question Novice test.

| Technician - has full priveleges on all VHF/UHF bands above 30 MHz.

| Required are Novice test and 25-question Tech test.

| Technician may access Novice HF bands by passing the 5 wpm Morse
| code test.

| General - has all Technician priveleges, plus larger access to more
| HF bands, including CW and Voice on 160, 80, 40, 30, 20, 17, 15,
| 12, and 10 meter bands. A General class amateur can give Novice
| tests.

| Required are 13 wpm Morse code test, Novice, Tech and 25-question
| General test.

| Advanced - has all General priveleges, plus wider band access on 80,
| 40, 20, and 15 meter bands. An Advanced class amateur can
| also become a VE and give tests to Novice and Tech tests.

| Required are 13 wpm Morse code test, Novice, Tech, General and
| 50-question Advanced test. The Advanced test is the most difficult
| of the five written tests.

| Amateur Extra - has full privileges on all amateur bands. An Extra
| can become a VE and give all amateur tests.

| Required are 20 wpm Morse code test, Novice, Tech, General,
| Advanced and 40-question Extra test.

| STILL LOOKING FOR THE FOLLOWING:

|14. Where can I learn more about Amateur Radio if I live outside the USA?

| *****Ideas, folks?*****

->Diana L. Syriac dls@genrad.com Ham: KC1SP (Sweet Pea) <-
->I'D RATHER BE FLYING! P-ASEL, INST CAP: 1LT, Freedom 690 Mobile<-
->GenRad AD ASTRA, PER ASPERA <-
->MS/6, 300 Baker Ave, Concord, Mass. 01742 (508) 369-4400 x2459 <-

Date: 14 Mar 91 18:46:27 GMT
From: genrad!dls@husc6.harvard.edu
Subject: Updated FAQs : Part II
To: info-hams@ucsd.edu

Since there have been numerous changes, I'm posting this again instead of waiting a whole month. Please email me if you have other changes.
Diana

12-Mar-91 15:49 dls update, see changebars (|)
I've been asked to create a "Frequently Asked Questions" posting for posting on rec.radio.amateur.misc, so here is Part II:
The following is a monthly posting of frequently asked questions for hams who already are licensed. There is another posting for Non-Amateurs or Beginning Hams. If you have any questions you think should be added, please email to me at dls@genrad.com.

FREQUENTLY ASKED QUESTIONS
For Amateur Radio (More Advanced Questions)

1. What magazines are available for Ham Radio?
Your local ham store may have some, but here's some popular ones (this is NOT a complete list!):
| QST, ARRL, 225 Main St, Newington, CT 06111 - basic projects and
| contesting
| CQ - ?
| 73 Amateur Radio Today, WGE Center, Forest Rd, Hancock, NH 03449 - ?
| QEX, ARRL, 225 Main St, Newington, CT 06111 - more technical projects
2. Where can I find VE sessions in my local area?
VE sessions are often announced in the local newspapers, but more often, they are announced by local radio bulletin boards. The local packet BBS will most likely have a monthly updated schedule
| for VE sessions. ARRL or W5YI can generally be called and asked for
| local VE sessions as well. Don't forget that you will need the
| following when you go in for an upgrade: a copy of your current
| Amateur license; your original Amateur license; any CSCEs (duplicate
| not required), if applicable and less than a year old; a picture ID,
| preferably a driver's license, passport or visa; and the VE test
| fee (approximately \$5 right now).

3. What do you need to get started in packet radio?

Packet radio is a digital form of communication using radios. There are OTHER digital forms, as well, like CW, RTTY and AMTOR. To use packet radio, you'll need a radio (2 meters or 1.25 meters is most popular), a box that converts radio signals to digital signals that a computer can understand (called a TNC or terminal node controller) and a computer or terminal. For some computers or TNCs you may need special software as well. However, most TNCs and computers get along quite well with just a terminal emulator software package. Most personal computers can be interfaced to use with packet radio. Since there are many digipeaters, generally even an HT will work with packet radio.

4. Where can I find ftp sites that have ham-related files?

General files for any computer and informational archive:

ftp.cs.buffalo.edu (submissions to this ftp site should be made to bowen@cs.buffalo.edu)

wsmr-simtel20.army.mil or wuarchive.wustl.edu - these are mirror images of each other - These contain ham radio mods and ham radio software

MacIntosh computer:

ftp uxc.cso.uiuc.edu, log in as "anonymous", password is your email address, cd pub/ham-radio - This contains the HyperCard Hamstacks written by Diana Syriac.

| apple.com, cd pub/ham-radio - Ham software and information, especially
| MacIntosh software

***others???

IBM compatible computers:

***others???

Other computers:

***others???

5. Are there any on-line callbooks?

If you are at an Internet site you can connect using telnet to one of the two primary servers:

callsign.cs.buffalo.edu (currently 128.205.32.4)

| ham.njit.edu (currently 128.235.1.10) (was plan2.njit.edu)

The servers sit on port number 2000 which is a different port number than what telnet usually defaults to. So if you just telnet to these machines, you will get a login prompt instead of the server. How you tell your telnet program to connect to port 2000 instead of the default port is operating system dependent but it is usually done with a line like

telnet callsign.cs.Buffalo.EDU 2000

If this doesn't work, consult your local systems guru for the proper command string.

The interactive servers are designed to be somewhat self-explanatory and they support fairly detailed help facilities. The first command you should execute when connecting to one of these servers is "info". This will list general info about that server and how to use it. You should then type "help" to list the various commands available. Typing "help" followed by a command name will give you a little more detail about that command. Servers allow searches by call, last name or city and also provide regular expression filters to trim your searches so you get a reasonable amount of output.

Both these servers are built from a database distributed by Rusty Carruth, N7IKQ. This database currently only contains US callsigns and it does not contain club calls. A new version of the database is sent around approximately once a year.

| There is also an email callsign server at callbook@sat.datapoint.com.
| In the body of the text, say "lookup" followed by callsigns you want
| to look up. If your mailer appends signature files, you should put
| a line "quit" at the end of your request (before the signature file).
| If you want help, put the word "help" on a line by itself. Here is
| what a request might look like:

| help
| lookup kc1sp wn4bbj
| lookup n0fzd
| quit

If you are a packet radio station, callserver data is available from WD1V. ***more info needed***

6. I am looking for a specific ham, can anyone help me find him?
Rather than sending out a message on Usenet, you might first try directory assistance from the phone company or the locator service provided by the Salvation Army. A Salvation Army post in your local area may be able to help you. If you have his/her callsign or name, you might also try one of the on-line callservers shown above.
7. Where can I find modifications for my radio to extend its capabilities?
There are two ftp servers that has this data:
wsmr-simtel20.army.mil or wuarchive.wustl.edu
- | There WAS email service from bitlib@uwo.ca. This has been terminated,

| however the new server may be available at pcserver@novell.business.
| uwo.ca. In the body of the email, send the command HELP.

| REMEMBER that any modification is likely to void your warrantee and
| that these mods are NOT guaranteed to work.

8. How do I use the incoming and outgoing QSL bureau?

To use the outgoing QSL bureau, you must be a member of ARRL. In
general, you send a bundle of foreign (not States!) QSL cards to
the outgoing bureau in Newington, Connecticut, along with a label
off of your QST magazine (which shows ARRL membership), along with
| \$2 per pound of cards (approximately 150 cards) or \$1 for 10 cards
| or less.

To use the incoming QSL bureau, you do NOT have to be a member of
ARRL. Send one or more Self-Addressed Stamped Envelopes (size 5x7
or 6x9, no bigger, no smaller) with one ounce of postage attached
and with your callsign in 3/4" letters in top left hand corner where
the return address label would go. If you expect a large quantity
of foreign QSL cards, attach extra money or postage with a paper
clip. Send the envelopes to the QSL bureau for your callsign area.
If your callsign is xx3xxx/5, you would send it to the 3rd call
area, NOT the 5th call area. Addresses for QSL bureaus are listed
in QST; if you don't have access to a QST magazine, ask another
| ham. IMPORTANT: BE PATIENT! Turnaround time for a US QSL bureau,
not considering foreign QSL bureaus, is about 3 months. Foreign QSL
bureaus and hams can be as fast as 2 months or as slow as TEN YEARS,
while average is about 6-12 months.

9. Can I send ARRL electronic mail?

Try 2155052@mcimail.com.

|STILL LOOKING FOR THIS INFORMATION:

|10. Is there an on-line copy of the FCC Part 97, or FCC Amateur Radio
| allocations?

| ***Ideas, folks?****

->Diana L. Syriac dls@genrad.com Ham: KC1SP (Sweet Pea) <-
->I'D RATHER BE FLYING! P-ASEL, INST CAP: 1LT, Freedom 690 Mobile<-
->GenRad AD ASTRA, PER ASPERA <-
->MS/6, 300 Baker Ave, Concord, Mass. 01742 (508) 369-4400 x2459 <-

End of Info-Hams Digest
